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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/037,674 03/09/98 MIZUHARA

H 2933SE-11-CI

EXAMINER

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MM92/0412

NADAL/UNIT

PAPER NUMBER

2811
DATE MAILED:

04/12/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/037,674

Applicant(s)
Mizuhara et al.

Examiner
ORI NADAV

Group Art Unit
2811



☒ Responsive to communication(s) filed on Mar 10, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) 16-24 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-15 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3-14

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

1. Applicant's election of claims 1-15 in Paper No. 15 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Objections

2. Claims 7 and 12 are objected to because of the following informalities: The phrase "lower than the first insulating film" should read "lower than that of the first insulating film".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 3-8, 10-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (4,984,055) in view of Ito et al. (5,270,259).

Okumura et al. teach in figure 13D a semiconductor device comprising a semiconductor substrate 1, wirings 17 located on the substrate, and a passivation layer located on the wirings, including a first SOG insulating film 13 containing boron impurities (column 10, lines 55-56), and a second silicon oxide insulating film 12 being located on at least one of an upper side and a lower side of the first insulating film.

Okumura et al. do not disclose whether the SOG layer is an organic SOG (i.e. containing over 1% carbon) or inorganic SOG layer.

Ito et al. teach that an SOG layer comprising an organic SOG and an inorganic SOG layers, respectively. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an SOG layer comprising an organic SOG and an inorganic SOG in Okumura et al.'s device, because each of the organic and inorganic SOG layers has its own advantages, and the choice of using an organic or inorganic SOG layer depends on the requirements of the application in hand.

Regarding claims 7 and 12, the second insulating film has a hygroscopicity lower than the first insulating film.

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5. Claims 2, 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. and Ito et al., as applied to claims 1, 5 and 11 above, and further in view of Yoshimori et al. (5,468,684).

Okumura et al. and Ito et al. teach substantially the entire claimed structure, as above, except an impurity selected from a group consisting of argon, nitrogen and phosphorus.

Yoshimori et al. teach an impurity selected from a group consisting of argon, nitrogen and phosphorus (column 16, lines 13-18).


It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use an impurity selected from a group consisting of argon, nitrogen and phosphorus in Okumura et al.'s device, because argon, nitrogen and phosphorus are known impurities used conventionally in the art.

Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

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Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is **(703) 308-8138**. The Examiner is in the Office generally between the hours of 7 AM to 3 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**


Tom Thomas
Supervisory Patent Examiner
Technology Center 2800

Ori Nadav, Ph.D.

April 4, 2000